

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A dehumidification unit comprising alternate laminations of an adsorption element ~~(1)~~ which supports an adsorbent and which is provided with a first air ventilation passage ~~(3)~~ through which air ~~(Aa)~~ to be processed is passed, and a cooling element ~~(2)~~ which ~~which~~ is provided with a second air ventilation passage ~~(4)~~ through which cooling air ~~(Ab)~~ is passed,

~~wherein~~ where said first air ventilation passage ~~(3)~~ of said adsorption element ~~(1)~~ and said second air ventilation passage ~~(4)~~ of said cooling element ~~(2)~~ are adjacently formed, with a single plate member ~~(P)~~ lying between said first air ventilation passage ~~(3)~~ and said second air ventilation passage ~~(4)~~; and

wherein said side-plate member is formed of an air and moisture permeable material and an exterior surface of said side-plate member is provided with waterproofing means.

2. (Currently Amended) ~~The dehumidification unit of claim 1, wherein:~~ A dehumidification unit comprising alternate laminations of an adsorption element which supports an adsorbent and which is provided with a first air ventilation passage through which air to be processed is passed, and a cooling element which is provided with a second air ventilation passage through which cooling air is passed,

where said first air ventilation passage of said adsorption element and said second air ventilation passage of said cooling element are adjacently formed, with a single plate member lying between said first air ventilation passage and said second air ventilation passage; and

wherein said plate member ~~(P)~~ is a side-plate member ~~(12)~~ which is made of fiber paper and which constitutes a side wall of said adsorption element ~~(1)~~ relative to the lamination direction thereof, and

said side-plate member ~~(12)~~ directly faces said second air ventilation passage ~~(4)~~ of said cooling element ~~(2)~~ and, in addition, a separation sheet layer ~~(14)~~ configured to prevent the passage of gas and liquid is formed on a surface of said side-plate member ~~(12)~~ on the side of said second air ventilation passage ~~(4)~~.

3. (Currently Amended) The dehumidification unit of ~~claim 1~~claim 2, wherein:

said plate member ~~(P)~~ is a side-plate member ~~(22)~~ which is formed by a metallic or resinous member and which constitutes a side wall of said cooling element ~~(2)~~ relative to the lamination direction thereof, and

said side-plate member ~~(22)~~ directly faces said first air ventilation passage ~~(3)~~ of said adsorption element ~~(1)~~.

4. (Currently Amended) ~~The dehumidification unit of claim 1, wherein:~~ A dehumidification unit comprising alternate laminations of an adsorption element which supports an adsorbent and which is provided with a first air ventilation passage through which air to be processed is passed, and a cooling element which is provided with a second air ventilation passage through which cooling air is passed,

where said first air ventilation passage of said adsorption element and said second air ventilation passage of said cooling element are adjacently formed, with a single plate member lying between said first air ventilation passage and said second air ventilation passage; and

wherein said plate member ~~(P)~~ is a side-plate member ~~(16)~~ which is formed by a metallic or resinous member and which constitutes a side wall of said adsorption element ~~(1)~~ relative to the lamination direction thereof, ~~and~~

and an adsorbent is supported on a surface of said side-plate member ~~(16)~~ which faces said first air ventilation passage supports an adsorbent layer. ~~(3)~~.

5. (Currently Amended) The dehumidification unit of any of ~~claims 1-4~~claims 1, 2, 4, or 14, wherein:

an air ventilation passage forming member ~~(21)~~ of said cooling element ~~(2)~~ is formed by a bending plate member shaped like a corrugated plate.

6. (Currently Amended) The dehumidification unit of any of ~~claims 1-4~~claims 1, 2, 4 or 14, wherein:

an air ventilation passage forming member ~~(21)~~ of said cooling element ~~(2)~~ is formed by a bending plate member shaped like a trapezoidally corrugated plate.

7. (Currently Amended) The dehumidification unit of any of ~~claims 1-4~~ claims 1, 2, 4 or 14, wherein:

an air ventilation passage forming member ~~(21)~~ of said cooling element ~~(2)~~ is made up of a plurality of partition walls ~~(23)~~ vertically arranged in the thickness direction of said cooling element ~~(2)~~.

8. (Currently Amended) The dehumidification unit of claim 2, wherein:

said separation sheet layer ~~(14)~~ is formed by attachment of a plastic film, by vapor deposition of a metallic material, or by application of an organic binder.

9. (Currently Amended) An adsorption element in which a large number of air ventilation passages ~~(3), (3), ...~~ are formed on the inside of a single pair of tabular side-plate members ~~(12), (12)~~ spacedly opposed to each other and an absorbent is supported on the side of an interior surface of each of said air ventilation passages ~~(3), (3), ...~~,

wherein:

said side-plate members ~~(12), (12)~~ are each formed of an air and moisture permeable material, and

either or both of exterior surfaces ~~(12a), (12a)~~ of said side-plate members ~~(12), (12)~~ are provided with waterproofing means ~~(14)~~.

10. (Currently Amended) An adsorption element in which a large number of air ventilation passages ~~(3), (3), ...~~ are formed at an interior surface ~~(12b)~~ of a tabular side-plate member ~~(12)~~ and an absorbent is supported on the side of an interior surface of each of said air ventilation passages ~~(3), (3), ...~~,

wherein:

said side-plate member ~~(12)~~ is formed of an air and moisture permeable material, and

an exterior surface ~~(12a)~~ of said side-plate member ~~(12)~~ is provided with waterproofing means ~~(14)~~.

11. (Currently Amended) The adsorption element of claim 9 or claim 10, wherein:
as said permeable material of which said side-plate member ~~(12)~~ is formed, ceramic fiber paper, glass fiber paper, flame resistant paper, or nonwoven fabric is used.

12. (Currently Amended) The adsorption element of claim 9 or claim 10, wherein:
said waterproofing means ~~(14)~~ is formed by attachment of a plastic film to said exterior surface ~~(12a)~~ of said side-plate member ~~(12)~~, by application of an organic binder to said exterior surface ~~(12a)~~, or by vapor deposition of a metallic material on said exterior surface ~~(12a)~~.

13. (Currently Amended) The adsorption element of claim 9 or claim 10, wherein:
said waterproofing means ~~(14)~~ is partially provided only in a corresponding area of said exterior surface ~~(12a)~~ of said side-plate member ~~(12)~~ to a non waterproofing structure portion of said cooling element ~~(2)~~ which faces said exterior surface ~~(12a)~~.

14. (New) A dehumidification unit comprising alternate laminations of an adsorption element which supports an adsorbent and which is provided with a first air ventilation passage through which air to be processed is passed, and a cooling element which is provided with a second air ventilation passage through which cooling air is passed,

where said first air ventilation passage of said adsorption element and said second air ventilation passage of said cooling element are adjacently formed, said adsorption element in which a large number of air ventilation passages are formed on the inside of a single pair of tabular side-plate members spacedly opposed to each other and an absorbent is supported on the side of an interior surface of each of said air ventilation passages; and

wherein said side-plate members are each formed of an air and moisture permeable material and either or both of exterior surfaces of said side-plate members are provided with waterproofing means.